I CLAIM:

1. A device for kinetically controlling the rate of vapor diffusion during crystal growth comprising discrete diffusion pathways, wherein said pathways affect the vapor diffusion rate between a crystal growth solution and a reservoir solution.

2. The device of Claim 1 wherein the diffusion pathways of the device are discrete channels.

3. The device of Claim 2 wherein the device comprises at least two channels, wherein the channels are between the crystal growth solution and at least two different reservoir solutions.

4. The device of Claim 2 wherein channel size or geometry can be actively controlled.

5. The device of Claim 1 wherein the device is made of a material porous to a vapor moving between the crystal growth solution and the reservoir solution.

6. A method of controlling the rate of vapor diffusion between a crystal growth solution and a reservoir solution comprising the device of Claim 1.

7. A method for crystallization of a biological molecule comprising the steps of:

(a) placing a reservoir solution in the bottom of a container;

(b) placing a device comprising discrete diffusion pathways in the top of the container;

(c) placing a crystal growth solution on the opposite end of the device from the reservoir solution; and

(d) sealing the container, the device and the solutions .

8. The method of Claim 7 wherein the crystal growth solution is placed in a well on the device.

9. The method of Claim 7 wherein the crystal growth solution is placed on a coverslip, wherein the crystal growth solution is hanging over the device.

10. The method of Claim 7 wherein the device comprises at least one channel between the crystal growth solution and the reservoir solution.

11. The method of Claim 10 wherein the device comprises at least two channels.

12. The method of Claim 11 wherein each of the channels are between the crystal growth solution and at least two different reservoir solutions.

13. The method of Claim 7 wherein the device comprise a material porous to vapor from the solutions.

14. A device for kinetically controlling the rate of vapor diffusion during crystal growth comprising:

(a) a reservoir unit comprising at least one reservoir chamber;

(b) a channel unit comprising at least one discrete channel; and

(c) a selection unit comprising an opening wherein the opening is large enough not to control the rate of vapor diffusion;

wherein the reservoir unit, the channel unit and the selection unit can rotate to align the reservoir chamber, the discrete channel and the opening.

15. The device of Claim 14 further comprising a cover.

16. The device of Claim 14 wherein the channel unit further comprises an opening wherein the opening is large enough not to control the rate of vapor diffusion.

17. The device of Claim 14 wherein the channel unit is sealed onto the reservoir unit and the selection unit is sealed onto the channel unit.

18. The device of Claim 14 wherein at least one channel of the channel unit is actively controlled.